



Solutions for Demanding Applications

VarTech Systems Inc.

Industrial CRT and Flat Panel Displays



VT201CHC • VT201CHC-IR

20.1" Honeywell Configured Flat Panel

User's Guide

Read these instructions completely before attempting to operate your new Color Display.

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1.1 VT201CHC Display Family

The VT201CHC is part of a series of LCD replacement displays for the Honeywell "Z" Style replacement furniture.

The VT201CHC display is an upgrade solution for US and UxS based systems. The VT201CHC is compatible with EPDG, EPDG2, and TPDG video.

The VT201CHC-IR is a complete upgrade solution. The VT201CHC-IR is supplied with a replacement console bezel and new flat IR touch frame which is compatible with the original 21" touch frame assembly being replaced.

1.2 Product Safety Precautions

- ⇒ Ensure that sufficient space is available around the display to provide the circulation necessary for cooling.
- ⇒ Ensure that the ambient air temperature will not exceed the specified maximum temperature.
- ⇒ Do not attempt to service this display yourself. The rear chassis has a seal so that non qualified personal will not expose themselves to dangerous voltages or other risks.
- ⇒ To protect from electrical shock, unplug the display power supply from the console before moving.
- ⇒ Do not expose the display to excessive heat.
- ⇒ Do not use this display near water.
- ⇒ Unplug the power supply from the console or unit if one of the following conditions exists.
 - ⇒ Power cord or plug is damaged or frayed
 - ⇒ Liquid is spilled into the display or the display is exposed to rain or water.
 - ⇒ The display does not operate normally when the operating instructions are followed.
 - ⇒ The display has been dropped or the enclosure has been damaged.
 - ⇒ The display exhibits a distinct change in performance, indicating a need for service.

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2.1 VT201CHC Display Features

- ⇒ Capable of displaying unlimited colors in a continuous spectrum. The high contrast LCD enhances the image with no geometric distortion.
- ⇒ The VT201CHC comes with a HD15 Input Connector. The VT201CHC also includes an HD15 to DB9 Video Adapter Cable.
- ⇒ The VT201CHC is supplied with a remote membrane switch assembly that mounts to the front of the console bezel for OSD controls.
- ⇒ The VT201CHC is supplied with an Anti-Reflective Screen.
- ⇒ The VT201CHC has an integrated 115/220VAC supply as standard.

2.2 Unpacking and setting up your display

Your LCD monitor package will consist of the basic components listed below. Depending on the display configuration, additional components are supplied.

2.3 What is included with your display

- ⇒ 20.1" LCD Monitor
- ⇒ Video adapter cable (HD15 to DB9)
- ⇒ Accessory Kit: OSD Membrane Kit; Chassis Brackets; Power Cord; a HD15 to DB9 Video Adapter Cable.
- ⇒ Users Guide (Printed or on CD)

2.4 Connecting the Display

1. Connect all cables to the station first. This would include the video adapter cable and the original IR touch screen cable.
2. After connecting the cables between the LCD monitor and the station, plug the power cord into the display.
3. Switch on the display power switch.
4. Reboot the station.
5. Your display should now operate showing the station video information.

Note: The displays are factory OSD adjusted for each configuration. However, additional OSD adjustments may be required (See section 3).

2.5 Signal Connections

To avoid irregular operation and /or damage to the display, please insure correct video is being supplied as shown on the following page.

2.5 Signal Connections Cont.

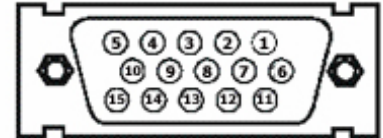
Use the HD15 to DB9 video adapter cable to connect the flat panel display to the EPDG I/O adapter board for EPDG and EPDG2 video. The HD15 to 5xBNC video adapter cable is supplied for non-standard configurations.

Note: The following figure is the view looking into the pin end of the male connector or solder term end of the female connector.

HD15 Connector






The following table provides the pin numbers and corresponding pin assignments for the HD-15 video connector.

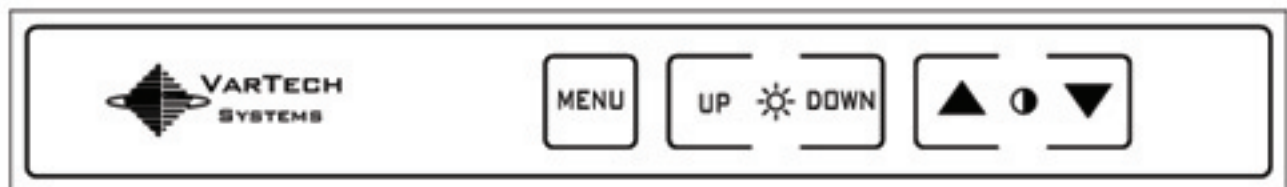
Pin	Signal
1	Red Video
2	Green Video
3	Blue Video
4	Not Used
5	Not Used
6	Red Video Ground
7	Green Video Ground
8	Blue Video Ground
9	Not Used
10	Ground
11	Ground
12	Not Used
13	Horizontal Sync
14	Vertical Sync
15	Not Used



**HD15 Connector
Female**

3.1 Adjusting the display

On Screen Display	
Button	Description
	Invokes OSD or Next Function Level
	Increase Contrast or Increment Selected Parameter
	Decrease Contrast or Decrement Selected Parameter
	Increase Backlight Brightness or Increment Selected Parameter
	Decrease Backlight Brightness or Decrement Selected Parameter



3.3 User Controls

Direct Brightness Adjustment	
OSD Agent	Description
Brightness	Controls the intensity of the backlight. After adjustment, the new Brightness value is displayed on the screen until the OSD timeout period expires. The new setting is then stored and the display returns to normal.
Direct Contrast Adjustment	
OSD Agent	Description
Contrast	Controls the contrast (video gain) of the picture. After adjustment, the new contrast value is displayed on the screen until the OSD timeout period expires. The new setting is then stored and the display returns to normal.
Menu Select	
OSD Agent	Description
Menu Select	Displays picture identification information together with a menu of icons. To access lower-level functions, use the brightness up and down or the contrast up and down buttons to toggle through the menus available for the currently displayed signal type, then press MENU again to select that function. The MENU button has a similar function to the ENTER key on a computer keyboard. Exit from a menu by selecting BACK which returns to the previous level. When leaving the main menu you will be prompted to save any changes, if you do not wish to save any changes select NO.
OSD Menu	
OSD Agent	Description
OSD Menu	At the top of the menu is a line which identifies the type of signal currently displayed. For computer signals the same section displays the signal resolution, together with horizontal and vertical frequencies. If its setup has been saved, the user number of the signal is also displayed. (These figures are for guidance only).
Brightness and Contrast	
OSD Agent	Description
Brightness and Contrast	These perform the same functions as the direct brightness and direct contrast button operations listed above.

3.3 Adjustment Procedure Cont.

The Geometry Menu	
OSD Agent	Description
Edge Adjustment	Adjusts Picture Size and Position Controls. The four “Edge” controls shift each edge within available limits. Note that the maximum available shift depends on the incoming video standard and the display panel type, and may be restricted vertically. This provides very flexible and easy to use image size and position control.
Moire	N/A
Clock	Sets the total number of input pixels per line to correspond with the input source, and will normally require adjustment for unusual signals.
Phase	Adjusts the internal clock to sample each pixel as near as possible to the centre. Phase will normally require adjustment for unusual types of signal.
Input Select: Configures the preferred input selections. (If a facility is not fitted, it will be displayed but not selectable.)	
OSD Agent	Description
Signal Type Priority	Graphics-video
Video Priority Search Order	CVBS -Y/C - Component Y/C - CVBS - Component Component - CVBS - Y/C
Graphics Search	RGB-DVI Note: DVI not available
Component Video Type	RCB or YUV. Incorrect colors may be due to wrong selection here.
The Color Menu	
OSD Agent	Description
Video Inputs	Adjusts the contrast (video gain) and brightness (black level) parameters.
Computer Inputs- Individual Color Adjustments	Red, green and blue levels can be thought of as individual brightness controls for each of red, green and blue. They should be adjusted for the desired color balance and to minimize noise on low intensity colors and greys. Color tints can be added as required.

3.3 Adjustment Procedure Cont.

The System Menu: Contains functions which are more applicable to system operation than to picture adjustment.

OSD Agent	Description
Esc	Returns to the last saved setup. It is useful if an adjustment has been made in error.
Save	Saves all the user adjustments for the displayed signal type. The new adjustments are stored in non-volatile memory and so are still valid from a power down—power up cycle.
Reset	1) Restores the user adjustable parameters for the signal currently being display back to the factory defaults. 2) Press the menu and brightness plus buttons simultaneously to restore to factory default state all the user adjustments for the signal currently being displayed. This is useful if a picture set-up has become lost or confused. The Reset option can also be accessed even if the OSD has been lost.
OSD Timeout	Controls the time after which the OSD display is cancelled. It can be adjusted in 15-sec increments from 1 (=8 sec) to 4 (=90 sec) approximately.
OSD X and OSD Y	N/A
Auto Centering	Yes/No. If an input signal changes, it is first measured and compared with stored selections. If its parameters are already stored, they are installed. If they are stored, the “Auto Centering” selection is checked and if set to “No” the best fit is displayed. The user can then center the picture using OSD auto setup. If Auto Centering is set to “Yes”, centering is performed automatically, which may take more than 15 seconds. This could cause a problem if using Windows, wherein a resolution change is displayed only for 15 seconds and reverts to its previous selection if no acknowledgement is entered. For this reason, the default state is “No”. NOTE this control only configures Analog Graphics inputs.

The Miscellaneous Menu

OSD Agent	Description
Image Flip Horizontal	N/A
Image Flip Vertical	N/A
Text Enhance / Normal	Improves the appearance of fine text from a computer generated analog input signal. Please note this function will only be effective if the signal resolution is close to the resolution of the panel, no harm will be done to the unit by trying the enhanced and normal text options for other input resolutions.

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4.1 Touch Screen Introduction

The VT201CHC-IR is supplied with a new flat IR touch frame which is compatible with the original monitor IR touch frame.

Connect the DB9 cable connector of the original IR touch interface cable to the DB9 connector on the new IR touch frame.

It will be necessary to reboot the system for the new touch frame to be activated.

Troubleshooting Tips	
Problem	Troubleshooting Tip
No image on display screen	<ol style="list-style-type: none"> 1. Check that the power cord of the station has been connected to the display. 2. Check that the power switch of the Display has been turned to the on position. 3. Check that the Video (Signal) Cable from the Display has been securely and correctly connected to the I/O adapter board. 4. Check that the Video Card and the I/O adapter card are firmly seated in the card slots of the stations.
Abnormal image	<ol style="list-style-type: none"> 1. Check that the correct display model is being used for the station. VT181CHE for PDG, VT181CH for EPDG. 2. Check that the Video (Signal) Cable from the Display has been securely and correctly connected to the connectors on the I/O adapter board.
Colors of image on screen are abnormal	<ol style="list-style-type: none"> 1. Check that the Video (Signal) Cable from the display has been securely and correctly connected to the I/O adapter board. 2. Adjust the OSD control for correct color balance.
Disturbances on Screen	<ol style="list-style-type: none"> 1. OSD adjustment is incorrect. Please consult section 3 for OSD screen adjustment procedures.

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CLEANING AND MAINTANENCE

Cleaning

Occasionally clean the display panel and cabinet with a soft cloth dampened (not soaked) with a mild (non-abrasive) glass cleaner. Keep turning a fresh side of the cloth toward the screen surface to avoid scratching it with accumulated grit.

Note:

The solvent should be applied only to the cloth, and not directly on the monitor screen.

Do not use paper products as they may scratch the surface. To minimize the risk of abrasion, allow the screen to stand dry.

Special care should be taken when cleaning a touch screen or polycarbonate shield that is installed over the screen. Abrasive and certain chemical cleaners can easily damage the surface.

Never use alcoholic or ammoniac cleaners to clean the polycarbonate shield or a touch screen.

Note:

For best results cleaning a monitor with the optional antireflective tempered glass display shield, a solution of denatured alcohol is recommended to thoroughly clean the display.

Other Maintenance

Qualified service personnel should perform all maintenance, except for the power cord replacement described above.

Mechanical Drawings

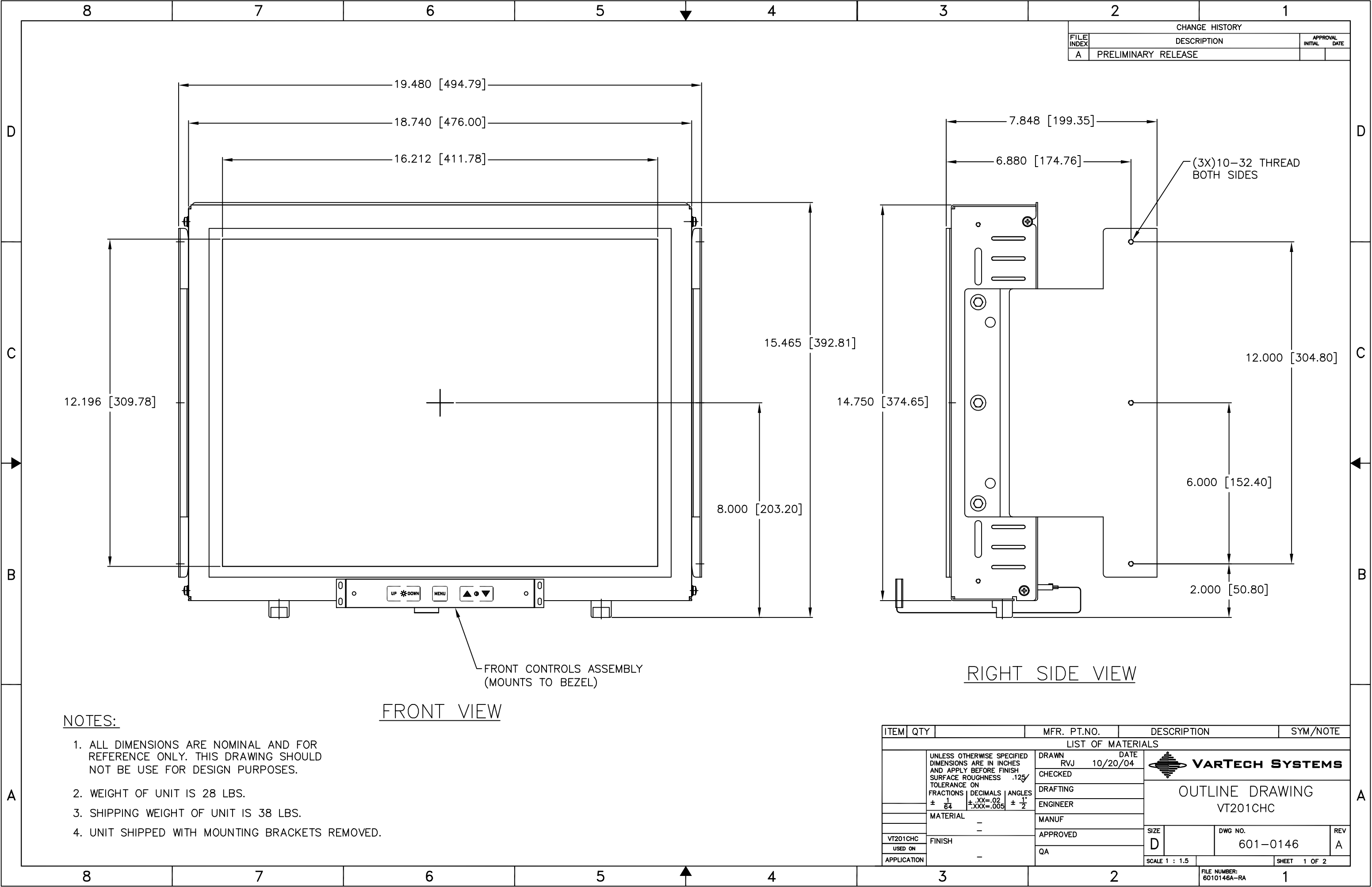
Model	Description	Page(s)
VT201CHC	Display only with original IR touch	14-15
VT201CHC-IR	Display and replacement IR touch	16-17

7.1 Mounting Procedure - VT201CHC

1. Remove the rear plastic console cabinet.
2. Disconnect the video cable, touch interface cable and power cord.
3. Remove the 4-6 screws that secure the display side mounting brackets.
4. Remove the CRT Display
5. Remove the original front plastic console bezel.
6. Install the new front replacement console bezel with the new IR touch frame.
7. Connect the membrane extension cable to the membrane tab that projects through the front console bezel.
8. Mount the VT201CHC display and secure to the side mounting brackets with the provided screws.
9. Connect the membrane extension cable to the display where marked. Connect the video cable and power cord to the display where marked. Set the display power switch to the ON position.
10. Connect the touch interface cable directly to the “D” connector on the new flat IR touch frame.
11. Make any OSD screen adjustments if required.
12. Install the rear plastic console cabinet.

Note:

For display upgrade only when replacing the flat screen Sony monitor, omit step 5, step 6, and step 7.



CHANGE HISTORY			
FILE INDEX	DESCRIPTION		APPROVAL
			INITIAL DATE
A	PRELIMINARY RELEASE		

NOTES:

1. ALL DIMENSIONS ARE NOMINAL AND FOR REFERENCE ONLY. THIS DRAWING SHOULD NOT BE USE FOR DESIGN PURPOSES.
2. WEIGHT OF UNIT IS 28 LBS.
3. SHIPPING WEIGHT OF UNIT IS 38 LBS.
4. UNIT SHIPPED WITH MOUNTING BRACKETS REMOVED.

FRONT VIEW

RIGHT SIDE VIEW

ITEM	QTY	MFR. PT.NO.	DESCRIPTION	SYM/NOTE
LIST OF MATERIALS				
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND APPLY BEFORE FINISH SURFACE ROUGHNESS .125/ TOLERANCE ON		DRAWN RVJ	DATE 10/20/04
	FRACTIONS DECIMALS ANGLES		CHECKED	
	± 1/64 ±.XX=.02 ± 1/2 ±.XXX=.005		DRAFTING	
	MATERIAL		ENGINEER	
			MANUF	
VT201CHC	FINISH		APPROVED	
USED ON			QA	
APPLICATION				
			SIZE D	DWG NO. 601-0146
			SCALE 1 : 1.5	REV A
			SHEET 1 OF 2	

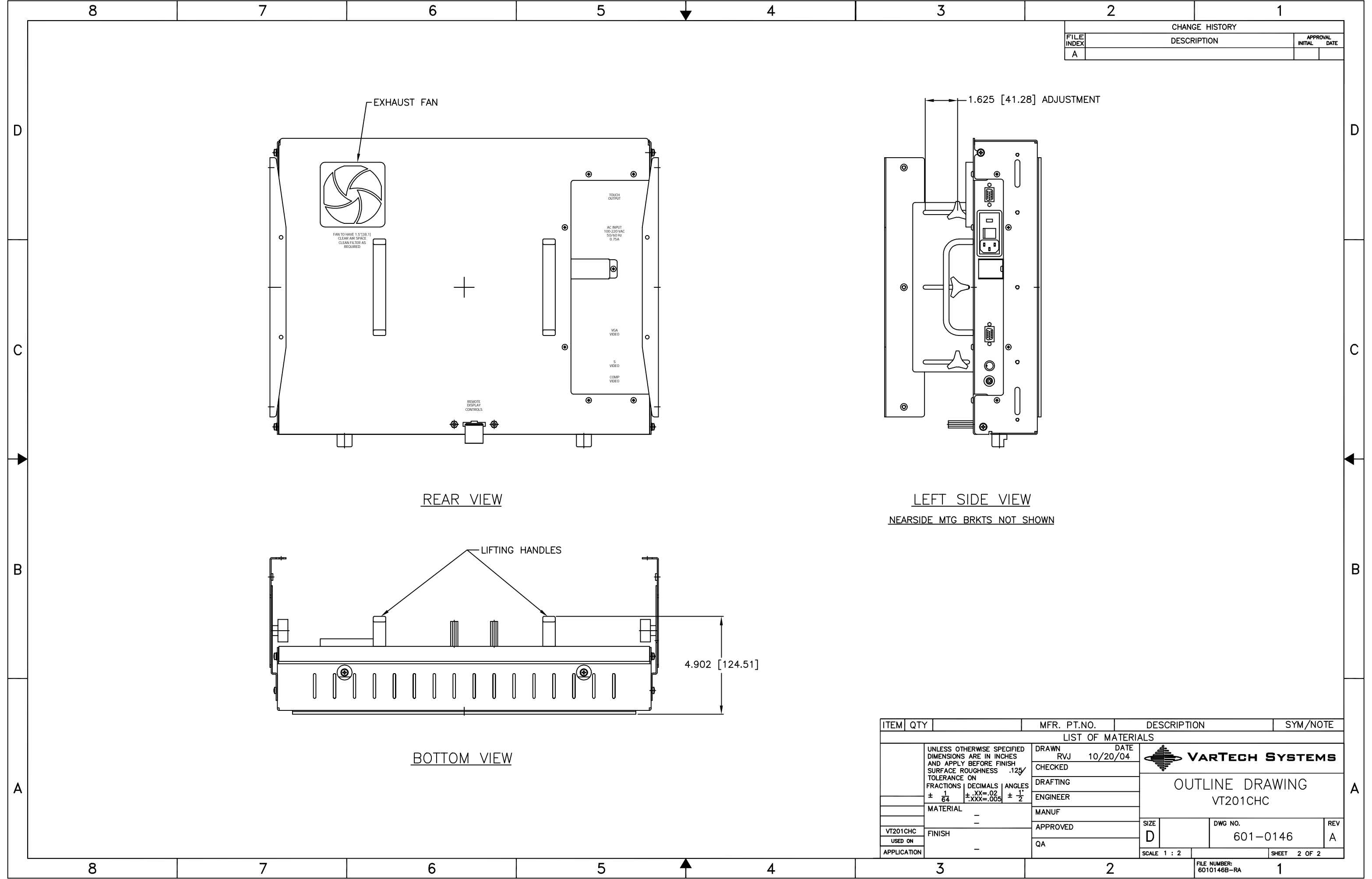



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OUTLINE DRAWING
VT201CHC

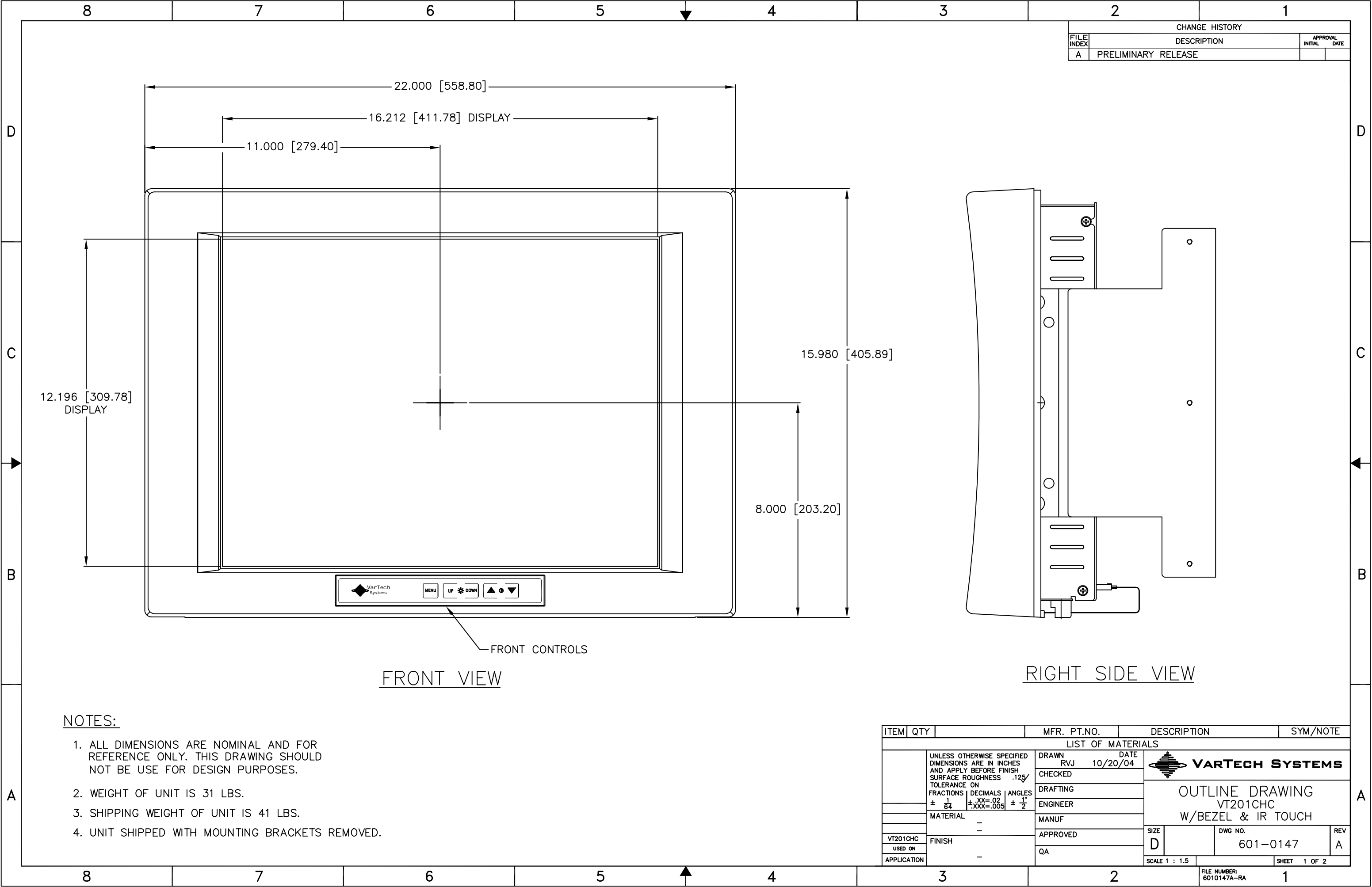
DWG NO.
601-0146

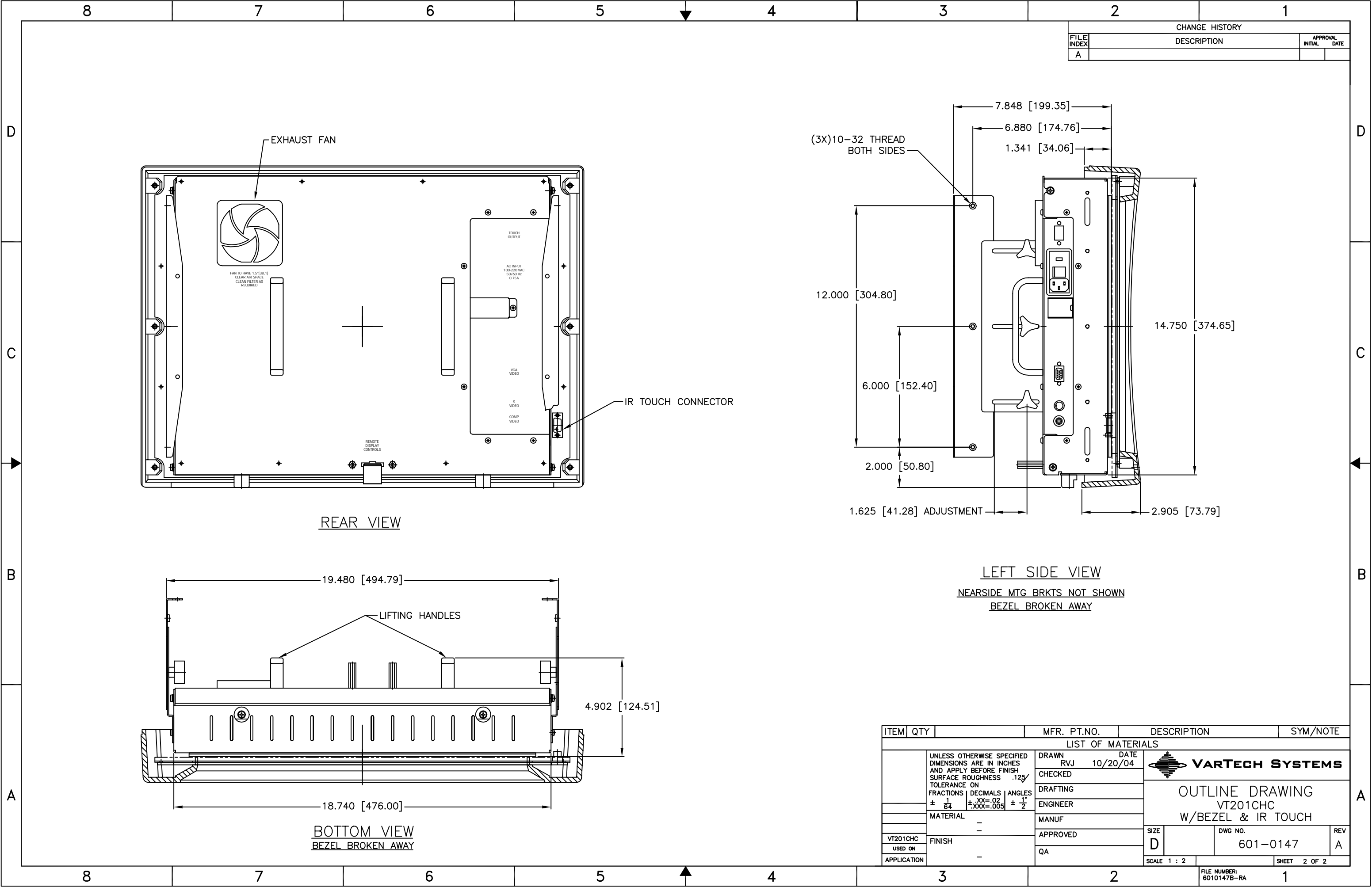
FILE NUMBER:
6010146A-RA




ITEM	QTY	MFR. PT.NO.		DESCRIPTION	SYM/NOTE	
LIST OF MATERIALS						
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND APPLY BEFORE FINISH SURFACE ROUGHNESS .125/ TOLERANCE ON FRACTIONS DECIMALS ANGLES ± 1/64 ±.XX=.02 ± 1/2 ±.XXX=.005		DRAWN RVJ 10/20/04	 VARTECH SYSTEMS	OUTLINE DRAWING VT201CHC	
			CHECKED			
			DRAFTING			
			ENGINEER			
	MATERIAL		MANUF	SIZE D	DWG NO. 601-0146	REV A
VT201CHC	FINISH		APPROVED			
USED ON			QA			
APPLICATION				SCALE 1 : 2	SHEET 2 OF 2	

FILE NUMBER:
6010146B-RA





CHANGE HISTORY			
FILE INDEX	DESCRIPTION		APPROVAL INITIAL DATE
A			

ITEM	QTY	MFR. PT.NO.	DESCRIPTION	SYM/NOTE
LIST OF MATERIALS				
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND APPLY BEFORE FINISH SURFACE ROUGHNESS .125/ TOLERANCE ON FRACTIONS DECIMALS ANGLES ± 1/64 ±.XX=.02 ± 1/2 ±.XXX=.005		DRAWN RVJ 10/20/04	<div> VARTECH SYSTEMS</div> <div>OUTLINE DRAWING VT201CHC W/BEZEL & IR TOUCH</div>
			CHECKED	
			DRAFTING	
			ENGINEER	
	MATERIAL		MANUF	
	FINISH		APPROVED	
VT201CHC	USED ON		QA	
APPLICATION				
SCALE 1 : 2			DWG NO. 601-0147	REV A
SHEET 2 OF 2			FILE NUMBER: 6010147B-RA	

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SPECIFICATIONS

ENGINEERING SPECIFICATIONS	
Panel Size	20.1"
Type	TFT Bright Active matrix AR / AG Protective Faceplate
Resolution Capabilities	EPDG, EPDG2, TPDG
Pixel Pitch	0.3075mm
Active Display Area	16.21" x 12.20" 411.7mm x 309.8mm
Viewing Angle (Left/Right)	80/80°
Viewing Angle (Up/Down)	80/80°
Contrast Ratio	350:1
Brightness	250 Nits
Response Time	T _R = 12ms typical T _F = 13ms typical
Back Lights	Cold Cathode 50,000 Hrs. Half Life
Video Connector	HD15(F)
Colors Supported	16.7M
Video Input	RGB Analog (0.7V p-p / 75ohm)
Sync	Separate H&V
Input Voltage	AC 100-240V 50/60Hz 1.0A
Power consumption	Normal: 55Watts DPMS: < 3Watts
Operating Temperature	0 to 50°C
Storage Temperature	-20 to 60°C
Operating Humidity	0 to 95%NC
Storage Humidity	0 to 95%NC
Operating Altitude	Up to 10,000 ft
Storage Altitude	Up to 40,000 ft

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